

App. No. 10/712,367

Reply to Office action of December 8, 2004

Amendments to the Claims:

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1 to 29. (canceled).

30. (currently amended) A polishing article for chemical-mechanical polishing a workpiece, the polishing article comprising:

a mixture, substantially uniform ~~mixture~~ throughout said polishing article, of a ~~filler~~ filler material, an abrasive, and a ~~resinous~~ binder comprising a heat curable resin having at least one epoxy group throughout said polishing article; and

a polishing surface for performing chemical-mechanical polishing,

wherein said polishing article is constructed with said resin included at a concentration that is between about 5% and about 15% by weight of said filler material to thereby cause said polishing surface to continually wear during polishing and thereby facilitate continuous exposure of the abrasive.

31 to 33. (canceled).

34. (currently amended) The polishing article according to claim ~~[[31]]~~ 30, wherein said resinous binder is a product of a reaction between said resin compound and an epoxy curing agent.

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35. (previously presented) The polishing article according to claim 34, wherein ~~an~~ epoxy curing agent is included at a concentration that is between about 10% and about 30% by weight of the resin material.

36. (previously presented) The polishing article according to claim 30, wherein ~~the~~ friable material has a hardness less than 3 on the Mohs hardness scale.

37. (previously presented) The polishing article according to claim 36, wherein the ~~filler~~ material is selected from the group consisting of talc, gypsum, and calcite.

38. (previously presented) The polishing article according to claim 30, wherein ~~said~~ polishing article has a thickness ranging between about 1 cm and about 3 cm.

39. (previously presented) The polishing article according to claim 38, wherein ~~said~~ polishing article has a thickness greater than about 2 cm.

40. (previously presented) The polishing article according to claim 30, wherein a weight ratio of abrasive to filler material is between about 0.3 and about 0.7.

41. (previously presented) The polishing article according to claim 30, further comprising at least one optically transparent window adapted to allow for transmission of light through said polishing article.

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42. (previously presented) The polishing article according to claim 30, further comprising a plurality of grooves created in said polishing surface for transporting fluids over said polishing surface.

43. (currently amended) A method for chemical mechanical planarization of a workpiece surface using a polishing apparatus comprising a platen and a fixed abrasive polishing article mounted on said platen, the method comprising the steps of:

polishing said workpiece surface using said fixed abrasive polishing article, said polishing article having a polishing surface, and comprising a substantially uniform mixture of a friable filler material, an abrasive, and a resinous binder comprising a heat curable resin at a concentration that is between about 5% and about 15% by weight of said filler material, the resin having at least one epoxy group; and

wearing away said polishing surface during said polishing step, and thereby continuously exposing said abrasive at said polishing surface.

44 to 46. (canceled).

47. (currently amended) The method according to claim ~~[[44]]~~ 43, wherein said resinous binder is a product of a reaction between said resin compound and an epoxy curing agent

48. (previously presented) The method according to claim 47, wherein said epoxy curing agent is included at a concentration that is between about 10% and about 30% by weight of the resin material.

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49. (previously presented) The method according to claim 43, wherein said ~~frable~~ material has a hardness less than 3 on the Mohs hardness scale.

50. (previously presented) The method according to claim 49, wherein the filler ~~material~~ is selected from the group consisting of talc, gypsum, and calcite.

51. (previously presented) The method according to claim 43, wherein said ~~polishing~~ article has a thickness ranging between about 1 cm and about 3 cm.

52. (previously presented) The method according to claim 51, wherein said ~~polishing~~ article has a thickness greater than about 2 cm.

53. (previously presented) The method according to claim 43, wherein a weight ratio of abrasive to filler material is between about 0.3 and about 0.7.

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